

Message

From: Thoma, Mark [mthoma@otpc.com]
Sent: 4/23/2019 9:06:40 PM
To: Satter, Suzanne [satter.suzanne@epa.gov]
CC: Nowak, April [Nowak.April@epa.gov]; Vukonich, Paul [pvukonich@otpc.com]; Lisburg, Megan [mlisburg@otpc.com]
Subject: RE: Toxics Release Inventory Electricity Generating Facilities guidance

Greetings Suzanne,

Thank you for taking the time to visit with Paul Vukonich and Megan Lisburg last Friday. To answer your question, I can confirm that Big Stone Plant burns subbituminous from the Powder River Basin in Wyoming. Coyote Station is a mine-mouth plant burning North Dakota lignite coal from the Coyote Creek Mine from May 2016 to the present and from the Beulah Mine prior to that.

I would like to go into some detail on our TRI calculation methodology to aid in your review of the data. Otter Tail Power Company utilizes a software package titled 'TRI for Power Plants' or TRIPP for short. The software was developed and continues to be maintained and updated by the Electric Power Research Institute (EPRI). TRIPP uses EPRI's Power Plant Toxics Measurements Database (formerly known as the PISCES database) as the source of metal concentrations in coal by type and region. To represent the WY Powder River Basin coal we use the database category "Northern Great Plains Subbituminous Coal." To represent the ND Lignite we use the database category "Northern Great Plains Lignite Coal."

The TRIPP metal concentration data was last updated by EPRI in 2015. Consistent with the guidance document (page 3-11) that specifically references EPRI PISCES data as an example of a preferred source of data as compared to Table 3-5, we consider the EPRI 2015 data as the best available information. Therefore, we request that EPA use TRIPP coal data to perform any calculations, even though in most cases there aren't large differences between TRIPP and the guidance document. Below is a table comparing the metal concentrations from the EPA Guidance document with the metal concentrations used in EPRI's TRIPP.

Additionally, please note there are a couple of different approaches to reporting coal quantities that Otter Tail Power Company uses depending on the specific report requirements. For TRI reporting, TRIPP's concentrations of metal compounds are expressed on a dry basis so coal mass must be converted to a dry basis as well. Conversely, the EIA report expresses coal mass on an 'as received' basis. Identifying the correct reporting basis is essential to arriving at an accurate estimate. It is unclear to us if the guidance document expresses coal mass on a dry or an 'as received' basis.

Finally, and importantly, we verified that the TRIPP software does in fact calculate all of the metal compounds in Table 3-5 of the guidance document and compares them to the appropriate TRI reporting threshold. Several of these compounds have been reported for Big Stone Plant and Coyote Station in the past.

If you have further questions on this topic we are happy to assist in providing answers.

	Coyote Station		Big Stone Plant	
Coal Type	North Dakota Lignite		Wyoming PRB Sub-bituminous	
Compound	EPA Metal Concentration Data in Coal, ppm	TRIPP Metal Concentration Data RY 2017, ppm	EPA Metal Concentration Data in Coal, ppm	TRIPP Metal Concentration Data RY 2017, ppm
Antimony/Sb2O3	0.58	1.1	0.73	0.15
Arsenic/As2O3	8.4	7.6	0.69	1.1
Beryllium/BeO	0.82	0.73	0.18	0.3
Cadmium/CdO	0.11	0.09	0.13	0.072

Chromium/CrO	7	9.3	2.82	5
Cobalt/CoO	2.7	2	0.87	2
Chlorine/Cl2O	110	110	118.3	49
Fluorine/F2O	34	57	43.7	52
Lead/PbO	3.73	3.3	2.07	2.4
Manganese/MnO	86	79	5.65	14
Mercury/Hg2O	0.13	We use site-specific	0.08	We use site-specific
Nickel/NiO	4.1	7.3	2.17	4.1
Selenium/SeO2	0.79	0.75	0.51	0.7

Regards,

Mark



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From: Satter, Suzanne <satter.suzanne@epa.gov>

Sent: Friday, April 19, 2019 3:08 PM

To: Thoma, Mark <mthoma@otpc.com>

Cc: Nowak, April <Nowak.April@epa.gov>

Subject: Toxics Release Inventory Electricity Generating Facilities guidance

*** This is an EXTERNAL email. DO NOT open attachments or click links in suspicious email. ***

Hello Mr. Thoma,

Today, your team and I discussed the attached guidance TRI is using to calculate metal oxide releases from coal-fired power plants. We are looking at the annual weight of coal that was consumed, based on information reported to the US Energy Information Administration (<https://www.eia.gov/electricity/data/eia923/>), and using the conversion factors from Table 3-5 on pages 3-14 – 3-28 of the attached document. The conversion factor calculations are based on the type of coal and the state from which the coal was mined.

We will do the calculations, but need for you to confirm the mines, particularly the states from which the coal was mined. In each case, we are interested in the coal sources from years 2013 through 2017. Below is a list of Otter Tail Power Plants with types and sources of coal.

Power Plant	Coal Type	Mine	State
Big Stone Plant	Sub-bituminous	Powder River Basin	Wyoming
Coyote Station	Lignite	Coyote Creek Mine	North Dakota

Thank you for your help in providing this information. Feel free to contact me with your questions.

Regards,
Suzanne Satter

Suzanne Satter

Toxics Release Inventory, Safer Choice, Green Chemistry, Federal Green Challenge

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